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Central Intelligence Agency

Washington D.C. 20505

DIRECTORATE OF INTELLIGENCE

MEMORANDUM FOR: Michael Driggs
Deputy Assistant Secretary for Automotive
Industry Affairs
Department of Commerce

FROM: [redacted]
Director of Global Issues

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SUBJECT: Japan Auto Industry

1. Attached is the additional information you requested concerning the Japanese automobile industry. More specifically, the package contains three related, though unintegrated, reports:

I. Growing Financial Strength of Japan's Auto Producers.

II. Japanese Automotive Production Capabilities.

III. Japanese Automotive R&D.

This information should prove helpful in your assessment of the competition facing the US auto industry.

2. The attached memoranda reflect information available as of 14 January 1983. If you have any questions, please call [redacted] Chief, Civil Technology and Industry Division [redacted]

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[redacted]

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Attachments:
As Stated

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[redacted]

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SUBJECT: Japan Auto Industry

OGI/TID/ [redacted] (17 January 1982)

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I. Growing Financial Strength of Japan's Auto Producers

Japan's automobile producers now hold the greatest amount of financial power and flexibility in the world auto industry. Japanese automakers have successfully generated excess cash resources, reduced debt and continued capital investments with little financial dependence on external sources. This financial strength gives Japanese companies several capabilities:

- o to increase investment in R&D for new product and process technologies;
- o to take advantage of market upturns and hold reserves to cushion downturns;
- o to move production off-shore with the lowest capital costs;
- o to invest in new diversified product areas such as aerospace, housing, and machinery.

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The following information is derived from an evaluation of Japanese company reports. We believe that the collective financial power of Japanese automakers is probably greater than is reflected in these annual reports. Since Japanese auto companies are only final assemblers of components from highly integrated groups of independently reported subsidiary operations, the annual reports can underestimate the financial power of the main firm. Toyota and Nissan, for example, each have more than 200 subsidiaries, and the value added at Toyota represents only about 30 percent of the total value of the vehicle. Furthermore, unconsolidated financial reporting allows the producers to conceal a variety of transactions.

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Moreover, the auto groups themselves operate as members of even larger industrial/financial groups which produce additional access to broad financial, strategic, material, and organizational resources.

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Indicators of Financial Growth

The financial strength of Japan's automakers has increased steadily over the past decade. With a high quality, fuel efficient product line and an aggressive marketing strategy, Japanese firms have been able to maintain sales during both market downturns of the past decade (1974-75 and 1980-81) (Table 1). These high sales volumes, in conjunction with their

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strategies to reduce manufacturing costs, have provided high returns on sales and capital over the past decade (Graphs 1 and 2). These substantial returns have enabled the producers to reduce long-term debt, further reducing costs, and continue to invest in the most technologically advanced capital equipment (Graph 3). Toyota, in fact, has been debt free since 1978.

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To reduce long-term debt and obtain new sources of capital, Japanese auto firms are increasingly seeking equity funds (Graph 4). The equity is owned primarily by Japanese financial institutions, rather than individual shareholders (Table 2). The Japanese firms' financial positions are further strengthened because financial institutions have been unconcerned about the operating characteristics of the companies and a quick return on investment. Thus , the firms are allowed to use the capital to focus on longer-term investment decisions.

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Flexibility of Financial Strength

Even during the recent world auto slump, Japanese firms have done better than their major competitors on the financial front. Most Japanese auto firms have maintained positive cash flows, despite the current slowdown in sales at home and growing constraints on export volume (Graph 5). Net working capital, a general measure of liquidity, has also remained high or, in the case of Toyota, increased (Graph 6). The combination of excess cash resources and a low debt has protected Japanese firms from the kind of financial pressures now facing the US and West European firms.

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Japanese automakers are currently using their financial strength to prepare themselves for the uncertain market environment of the next few years. A large proportion of each company's financial resources continue to be used to strengthen their technological capabilities and manufacturing efficiencies. Increases in R&D and capital expenditures confirm the plowback of these resources into the development of the next generation of products and processes to meet future world markets (Graph 7 and 8). Some firms, such as Nissan and Honda, are using a substantial proportion of these funds to establish production facilities overseas. The opportunity costs remain low because the Japanese have been able to finance the majority of these expansions with internal operating funds, not external debt.

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The Japanese are also using their strong financial position to invest in areas outside the firm (Graph 9, See also Balance Sheets in Appendix). These investments have been made in subsidiaries and affiliates as well as non-affiliated companies. To subsidiaries and affiliates, the investments are a

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way to provide cheap capital funds, especially for R&D, and a means to integrate vertically. Investments in non-affiliates provide auto companies a means of diversifying their financial base and reducing risks through diversification of product lines (i.e., countercyclical investments). Toyota, for example, is 25X1
rapidly moving into production of modular housing. Other companies are venturing into machinery, industrialized equipment, and aerospace--all largely financed from the vehicle sales 25X1
base.

Strong Financial Outlook

Industry analysts believe the financial power of the Japanese will tend to increase, relative to their competitors, over the next decade. For one thing, the Japanese are not burdened by large debt, and should be able to use their diversified investments to counter fluctuations in the automotive market. US and European producers, on the other hand, are increasing their level of debt and capital obligations; in these circumstances a substantial share of and future increases in revenues will have to be used to finance debt. 25X1

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Table 1

Japan: Auto Sales in Selected Years
(stated in 1,000 vehicles)

	1982*	1981	1980	1978	1976
Total Unit Sales	10,970	11,179	11,042	9,269	7,841
Domestic Sales	5,010	5,131	5,075	4,509	4,132
Foreign Sales	5,956	6,048	5,967	4,717	3,709
Percentage of which					
United States	33	38	43	47	37
Western Europe	19	20	21	21	20

*estimated

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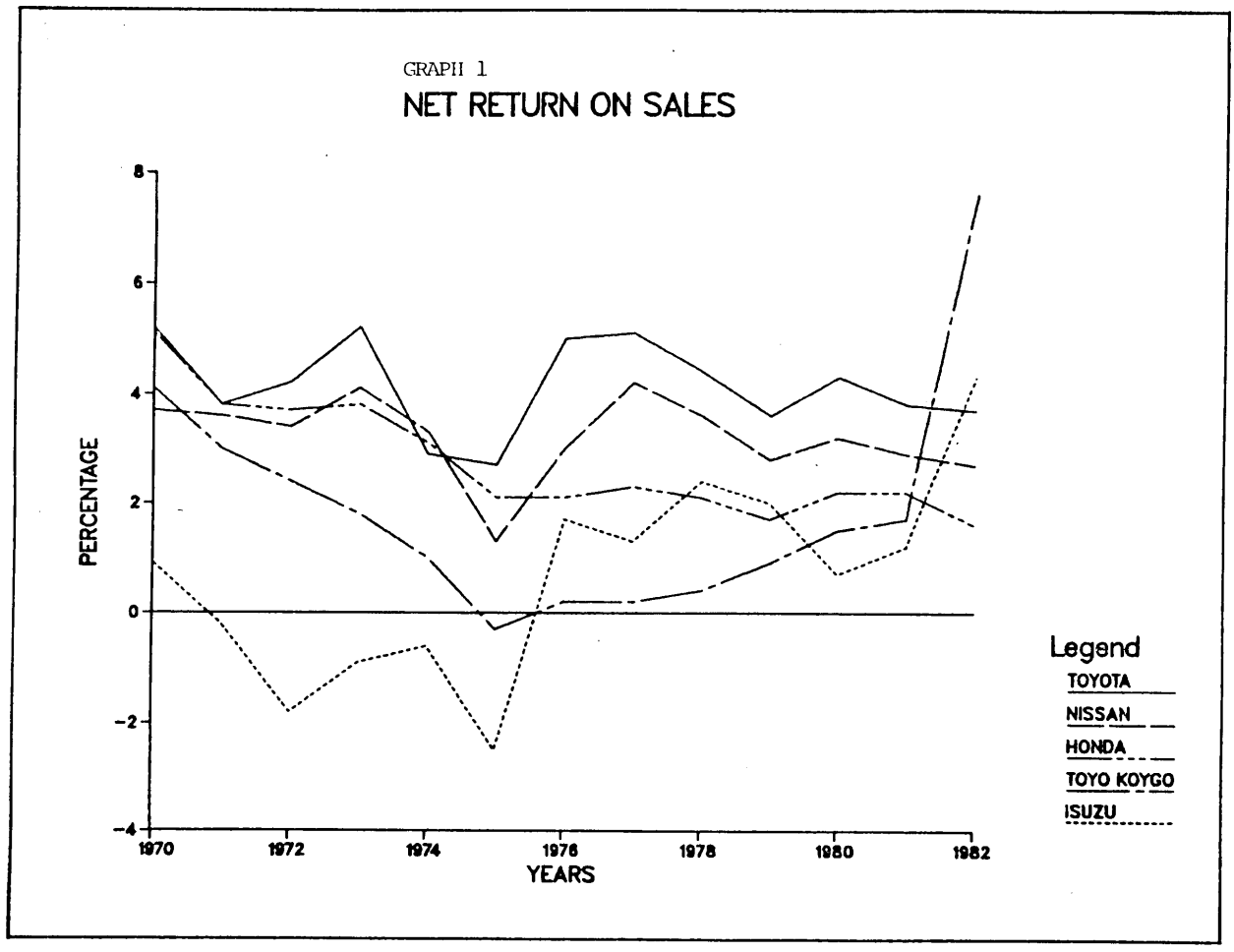
GRAPH 1

NET RETURN ON SALES



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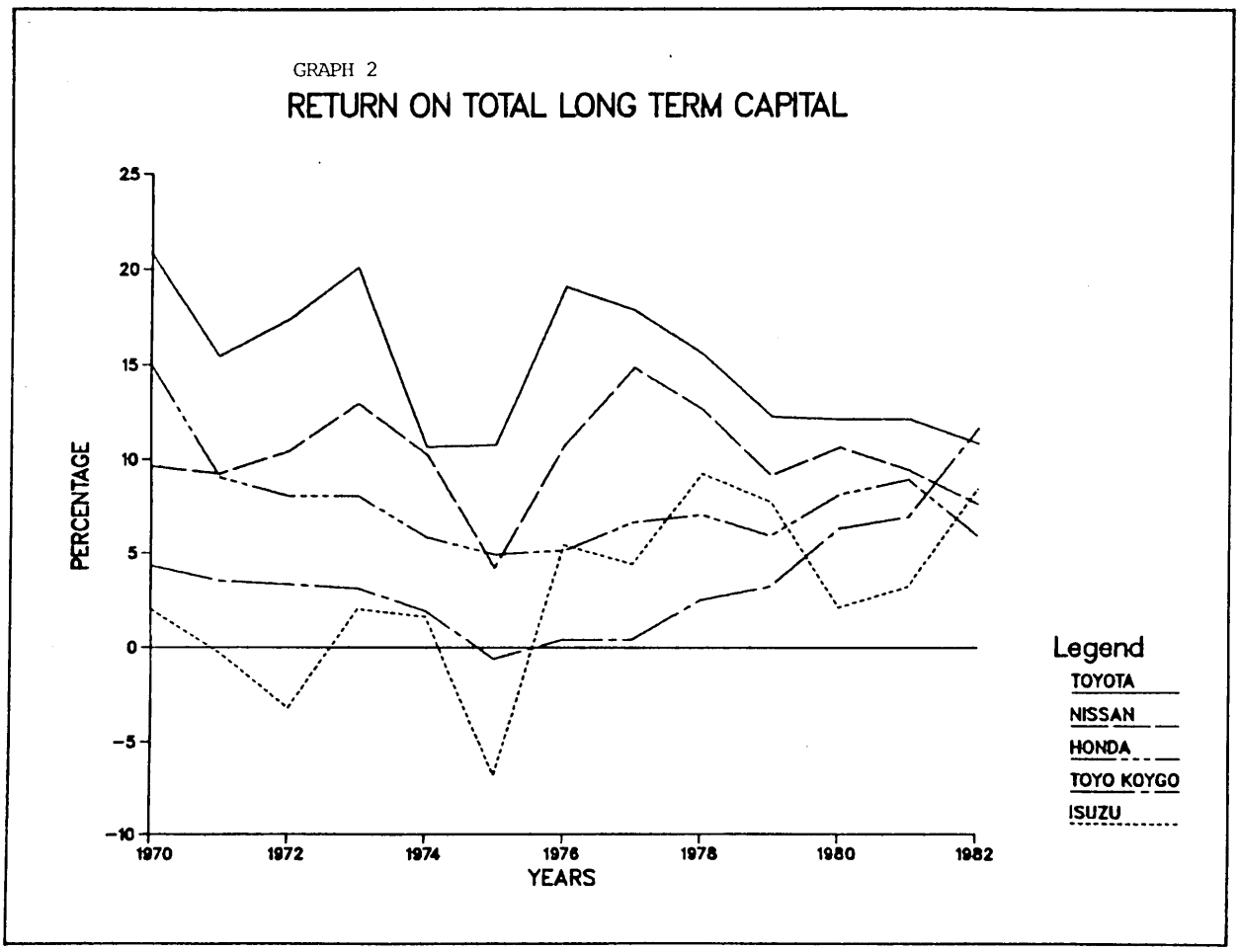
GRAPH 2

RETURN ON TOTAL LONG TERM CAPITAL



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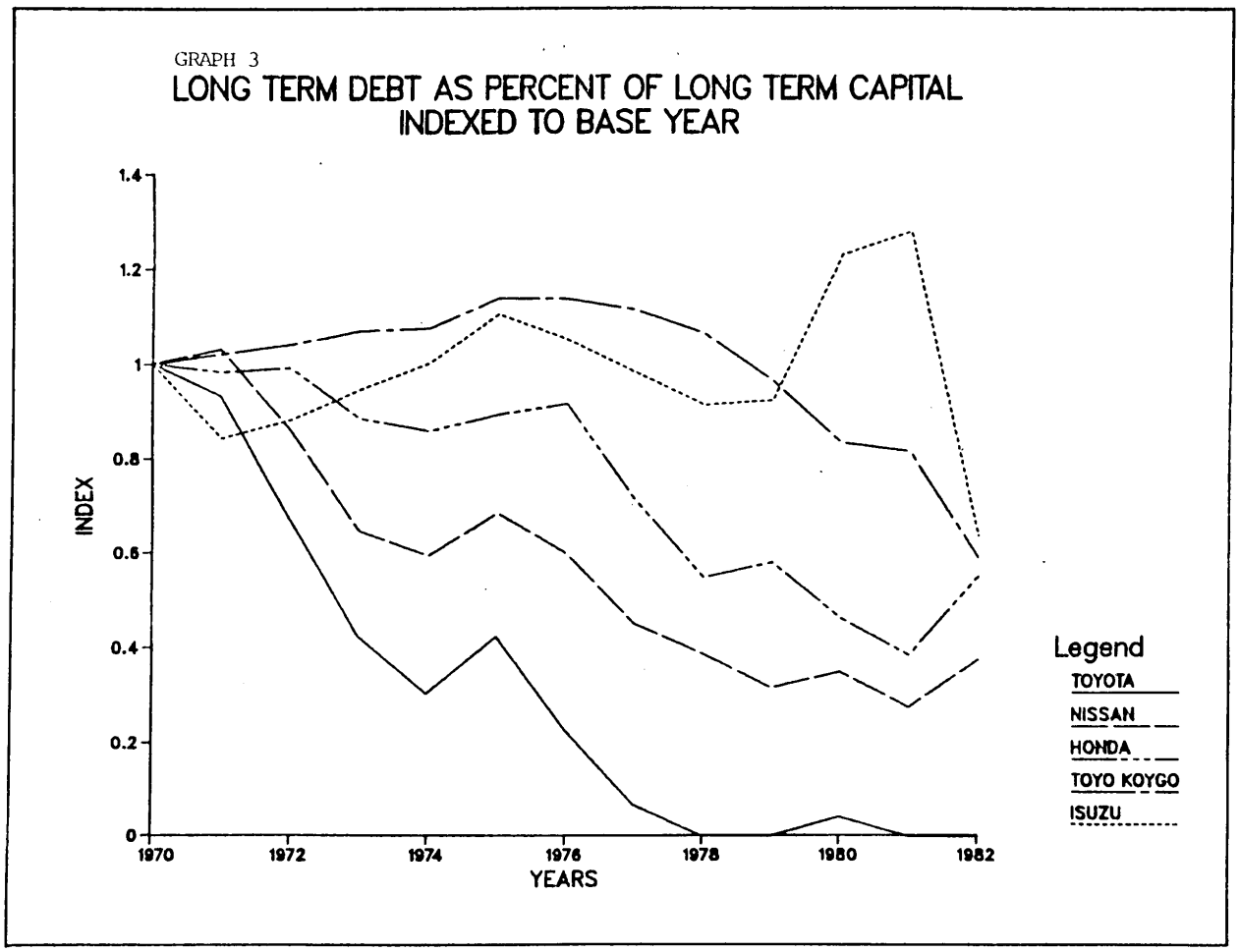
GRAPH 3

LONG TERM DEBT AS PERCENT OF LONG TERM CAPITAL INDEXED TO BASE YEAR



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GRAPH 4

INDEX OF SHAREHOLDER EQUITY

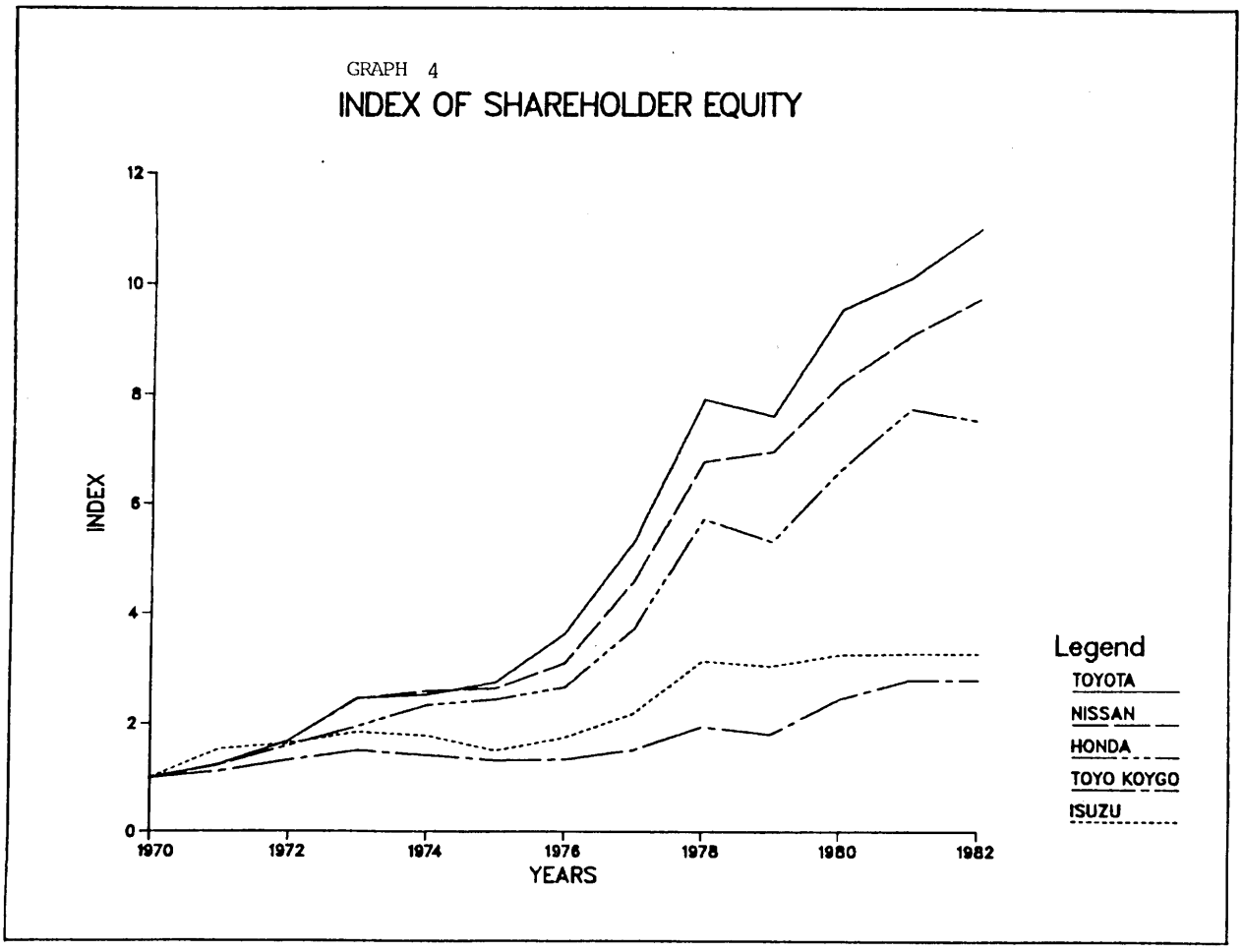

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Table 2

Common Stock Holdings
(Percentage of Shares Held)

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Toyota													
By Financial Institutions	62.7	61.5	61.1	61.0	60.0	58.5	60.0	58.7	58.1	58.1	0	0	0
By Other Corp.	22.0	24.2	24.3	24.1	23.9	24.9	25.1	25.5	25.7	25.2	0	0	0
Other	15.3	14.3	14.6	14.9	16.1	16.6	14.9	15.8	16.2	16.7	0	0	0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0	0	0
Nissan													
By Financial Institutions	57.0	58.8	61.4	61.1	60.4	58.7	57.7	57.2	57.2	0	0	0	0
By Other Corp.	28.0	28.9	30.3	30.3	30.6	29.9	31.0	31.9	32.5	0	0	0	0
Other	15.0	12.3	8.3	8.6	9.0	11.4	11.3	10.9	10.3	0	0	0	0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0	0	0	0
Honda													
By Financial Institutions	46.0	43.9	42.0	39.4	36.7	37.4	37.3	35.5	32.5	0	0	0	0
By Other Corp.	20.3	21.7	20.7	21.7	20.8	21.9	22.3	23.1	24.7	0	0	0	0
Other	33.7	34.4	37.3	38.9	42.5	40.7	40.4	41.4	42.8	0	0	0	0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0	0	0	0
Toyo Kogyo													
By Financial Institutions	NA	42.6	41.0	55.7	49.5	48.4	49.0	49.9	49.6	50.5	0	0	0
By Other Corp.	NA	16.5	17.1	19.8	16.4	17.1	17.5	17.6	18.2	18.6	0	0	0
Other	NA	40.9	41.9	24.5	34.1	34.5	33.5	32.5	32.2	30.9	0	0	0
Total	NA	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0	0	0
Isuzu													
By Financial Institutions	NA	30.2	30.9	31.7	31.9	30.1	29.4	29.0	29.5	29.5	0	0	0
By Other Corp.	NA	18.8	19.6	20.0	20.3	17.5	18.9	18.5	18.1	17.9	0	0	0
Other	NA	51.0	49.5	48.3	47.8	52.4	51.7	52.9	52.9	52.6	0	0	0
Total	NA	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	0	0	0

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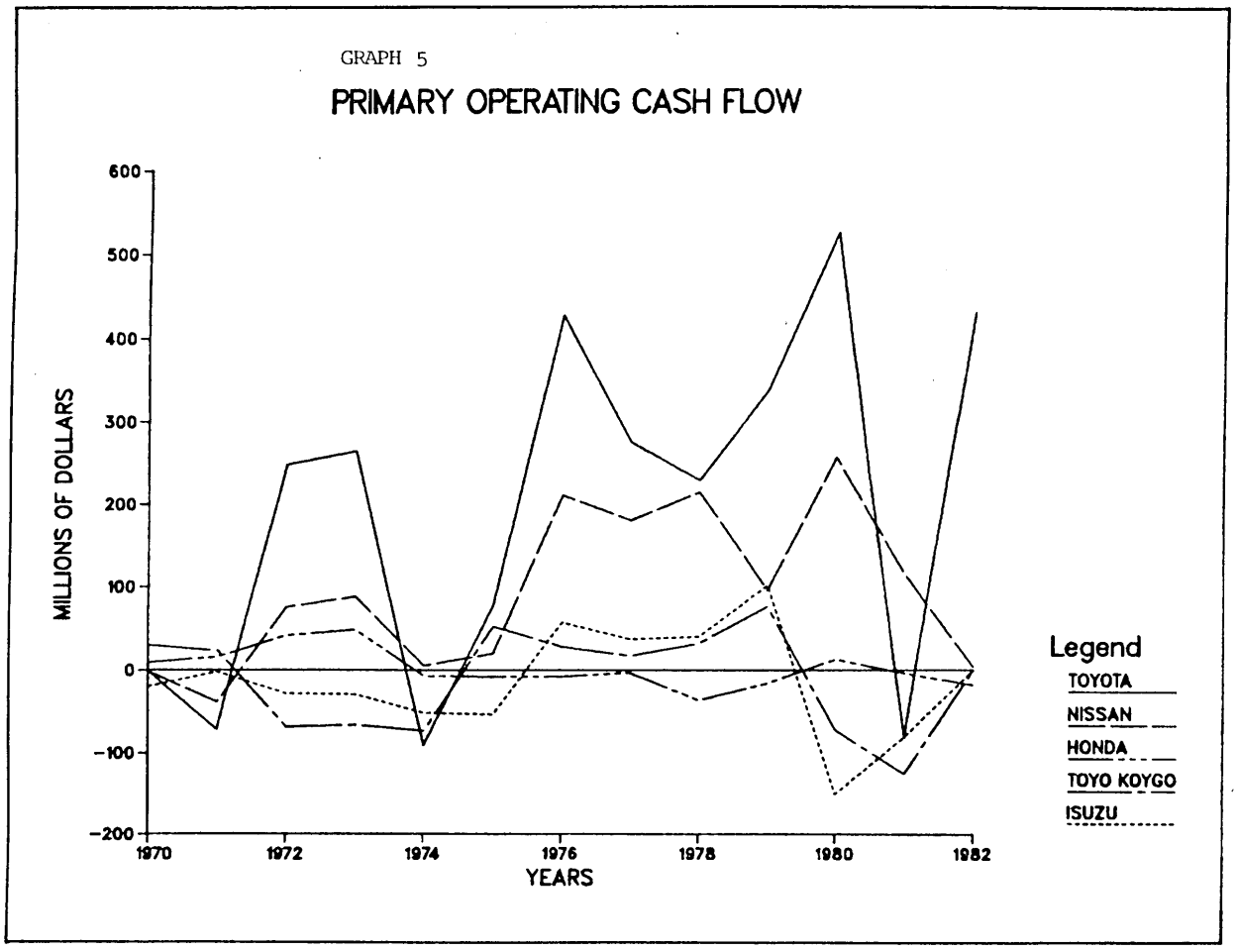
GRAPH 5



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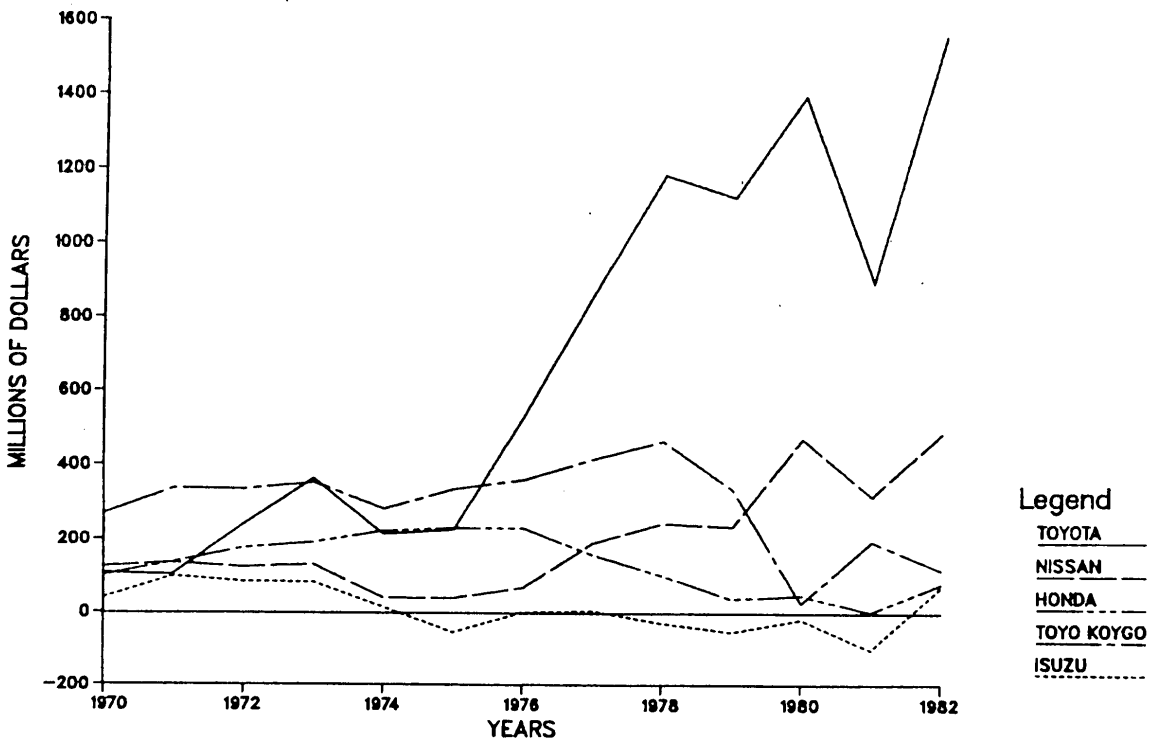
GRAPH 6

NET WORKING CAPITAL



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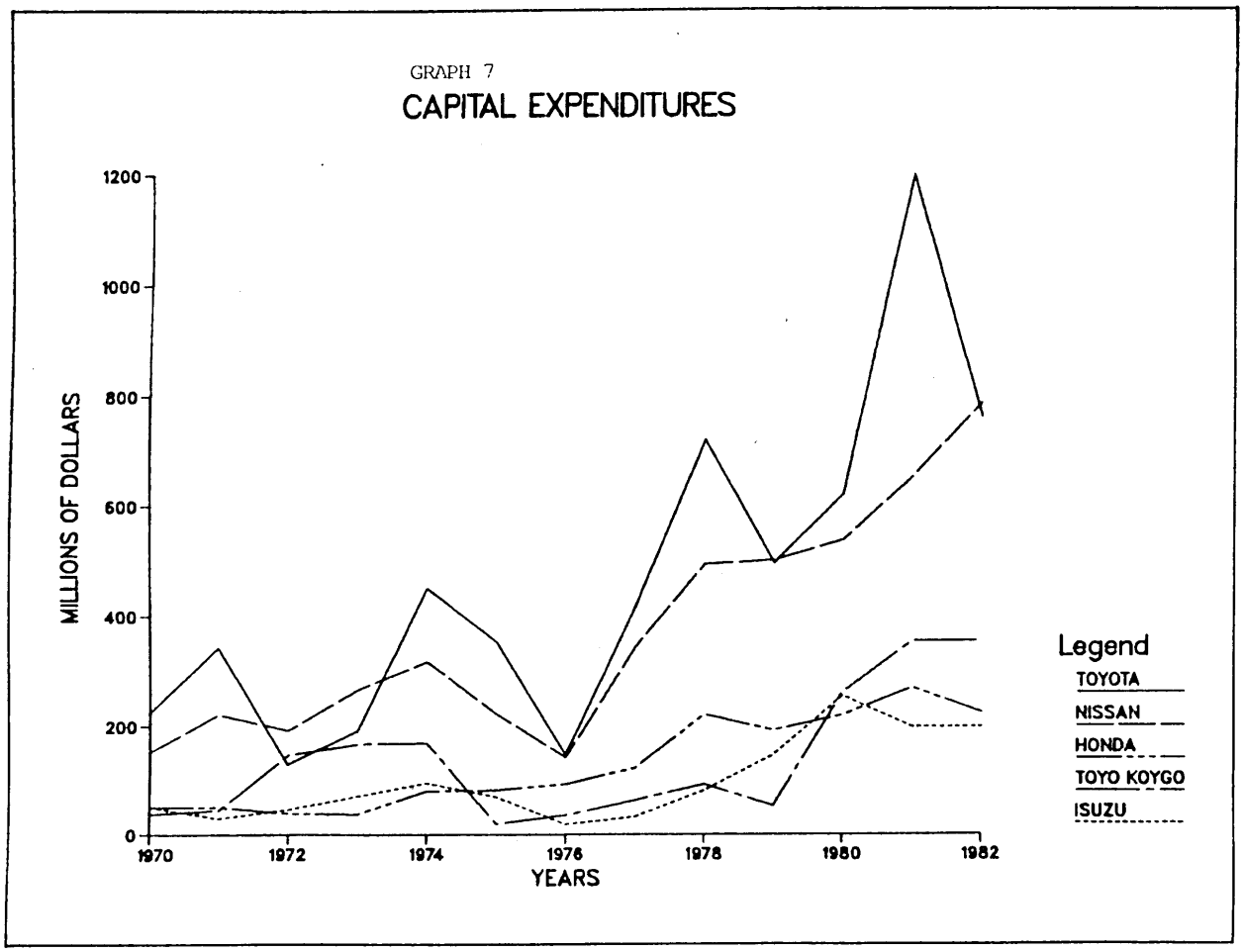
GRAPH 7

CAPITAL EXPENDITURES



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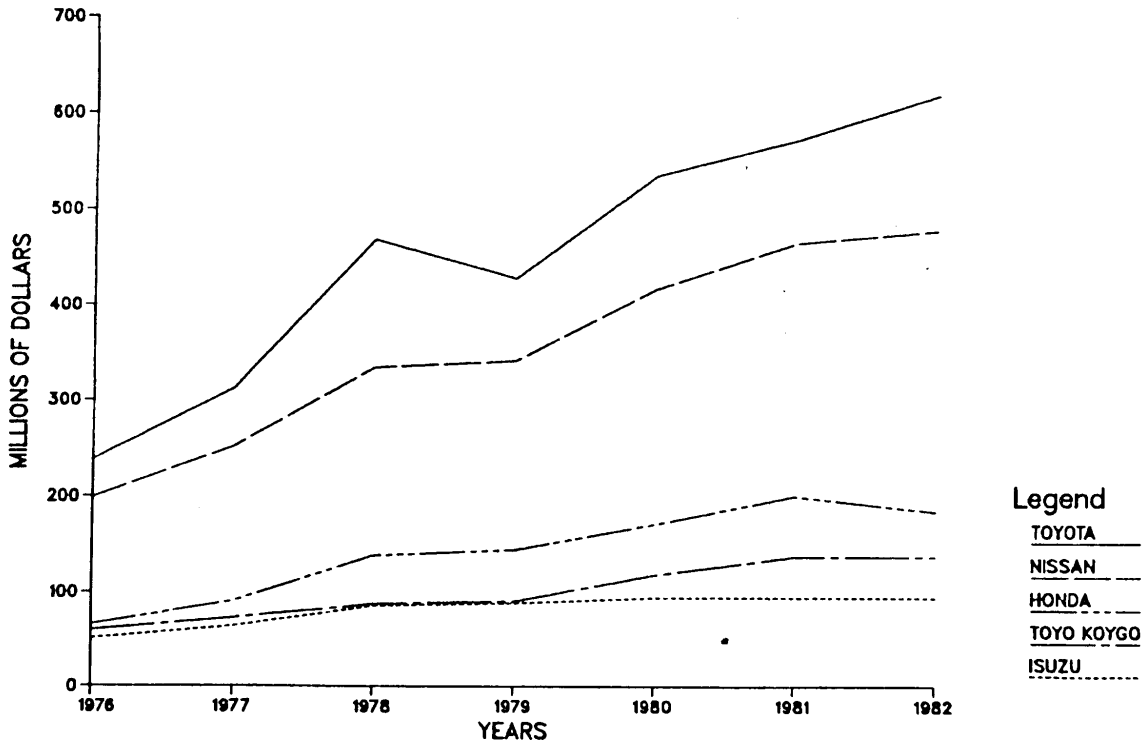
GRAPH 8

RESEARCH AND DEVELOPMENT EXPENDITURES



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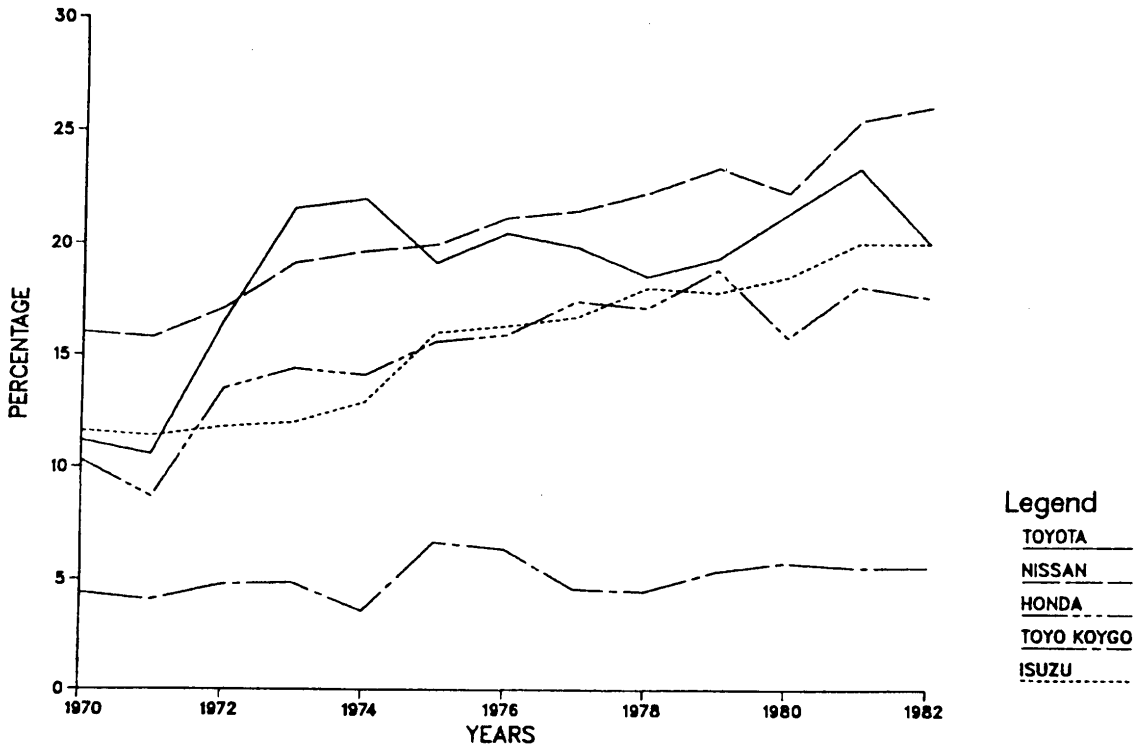
GRAPH 9

INVESTMENTS AS A PERCENTAGE OF TOTAL ASSETS



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II. Japanese Automotive Production Capabilities

We estimate current Japanese annual automotive production capability under normal operating conditions (straight time) to be 11.2 million vehicles (see table 1). Normal operation is based on two eight hour shifts, 247 days per year. All subcontractors' assembly capacity is included in this estimate. We estimate that Japanese auto makers are capable of increasing production beyond normal operations to a maximum annual total of 13.9 million vehicles. 25X1

[redacted] 25X1

Observed Practices: Production Rates

[redacted] during the last two years the Japanese auto industry has operated at up to 15 percent above normal operating conditions (straight time). Generally a production target for each assembly plant is set by the company's management in coordination with the sales division's projected product demand.[1] Basically they can increase straight time operating rates the following ways: 25X1

- extending each work shift by up to two hours and reducing maintenance periods between shifts correspondingly.
- extending the work week to up to seven days per week.

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We estimate the Japanese are currently able to produce a maximum of up to 13.9 million vehicles annually if they made maximum use of longer shift and work week option. Our estimate assumes the mix of shift and work week schedules and allows for a 6 percent downtime as contained in table 2. [redacted] 25X1

[redacted] 25X1

1. Japanese auto plants are flexibly designed to react quickly to changes in the composition of vehicle demand. Due to the commonality of parts between light trucks and passenger cars much of the capacity can be changed in three to six weeks to produce different models or vehicle types; e.g. an existing light truck facility can be changed to produce the same amount of passenger cars at the facility . Passenger car and light truck capacity accounts for 90 percent of total production capacity (see table 3). In practice there has been little or no switching. [redacted] 25X1

[redacted] 25X1

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Production at these rates is limited by the strain of longer working hours placed on the workforce. The more intense the production rate, the shorter the period of time the rate can be sustained.

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Wage premiums and bonuses encourage Japanese autoworkers to accept longer work hours. In fact, straight time wages account for only 55 percent of total income. Production bonuses for meeting monthly production targets account for another 25 percent, and overtime premiums account for the remaining 20 percent.

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Future Capability: 1985

We estimate Japanese annual automotive vehicle production capability will increase by 1.3 million vehicles to a total of 12.5 million vehicles in 1985 (see table 4) based on normal operating (straight time) conditions. Using the same production scenerio presented in the previous section we estimate the 1985 maximum annual Japanese production capability will be 15.9 million vehicles (see table 1). Our estimates that appear in table 3 are based on the following announced plant expansions:

- Toyo Kogyo accounts for more than half of Japan's expansion. Its expansion plans include three new assembly plants in Kyushu, Hofu, and Nishinoura, each with a rated capacity of 240 thousand cars per year.

- Isuzu plans a three year project to increase its annual productive capacity by 300 thousand vehicles when its new Fujisawa plant is completed in 1985.

- Suzuki's new plant at Kosai is scheduled to increase its capacity by 140 thousand mini cars by 1984.

- Fuji's total capacity is to be increased by 100 thousand vehicles when its Ohizumi plant is completed in 1983.

- Nissan Deisel's new plant at Gunma increases capacity by 20,000 vehicles per year, replacing some obsolete capacity as its Kawaguchi facilities.

- Mitsubishi, Daihatsu and Honda plan to increase production capacity by expanding existing facilities.

Our review of Japanese auto industry reports did not reveal any plans for plant retirements. As far as we can determine, neither Toyota nor Nissan have announced plans to expand domestic production facilities.

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Table 3

Japanese 1982 Production Mix

	Percent Share			
	Cars	Lt.Trucks	Med/Heavy	Buses
Toyota	70	19	10	1
Nissan	72	21	6	1
Mitsubishi	55	35	10	*
Honda	85	15	0	0
Toyo Kogyo	71	19	10	*
Suzuki	16	84	0	0
Isuzu	28	37	33	2
Fuji	40	60	0	0
Daihatsu	31	66	3	*
Hino	0	3	88	9
Nissan Diesel	0	0	95	5
Total	64	26	8	2

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* Less than one percent of total production.

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III. Japanese Automotive R&D

According to company data, the five major Japanese automakers are spending roughly $1.5 billion annually on research and development (R&D). Although this figure includes some expenditures that went to production facilities instead of R&D, they do not include the R&D expenditures of some 250 component suppliers to the industry for the components they produce such as the automotive divisions at Nippondenso, Mitsubishi Electric, and Aisan. At this time no estimate can be provided as to the extent that these suppliers contribute to total automotive research and development in Japan, but we believe their contribution of the major auto parts suppliers is substantial. In addition, companies' R&D efforts also benifit from imported foreign technologies, such as front-wheel drive technology, and government supported research programs through direct grants, low interest loans and tax credits.

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Over the past three years, Toyota, Nissan and Honda have allocated approximately 60 percent of their research and development (R&D) budgets to develop front-wheel drive and weight reduction technologies. The remaining 40 percent has been spent on technologies aimed at improving the fuel efficiency of engines and on safety research. As a result of these efforts, by 1986 their average fuel economy is expected to increase up to 20 percent, and 80 percent of small car production is expected to be front-wheel drive models.

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Near Term Technology

Based on our discussions with industry experts, we believe that near term product developments in the Japanese auto industry will be evolutionary improvements of existing technology in electronics, aerodynamics and materials rather than revolutionary developments of new technologies. Japan has taken an aggressive approach toward increasing the efficiency of their small cars by improving engine design using multi-valved cyclinders, ceramic ignition parts, lean burn carborators and swirl combustion chambers. The Japanese are also continuing to broaden their product range of both mini-cars and higher priced models. In addition, they are working to extend their application of: (1) electronic engine and transmission controls, (2) turbo-chargers for use in small engines, (3) aerodynamics, (4) electronic display systems, and (5) materials to reduce vehicle weight.

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Major improvements in manufacturing technology are also being aggressively developed by the Japanese automakers according to industry experts. Toyota and Toyo Kogyo are at the forefront in moves to increase productivity. With well honed management techniques already in place, the Japanese are placing greater emphasis on the application of robotics, CAD/CAM and flexible manufacturing systems. Industry experts estimate the Japanese will increase productivity 20 percent in the late 1980's by increasing the use of automation in the manufacturing process. Toyo Kogyo and Toyota, for example, are using their assembly facilities at Hofu and Tawahara respectively as test facilities for a series of new automated stamping presses. The process will virtually eliminate labor in the entire stamping to assembly process. Once the Japanese are satisfied with the process, it will be employed in virtually all assembly facilities.

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Longer Term Focus

Longer term R&D efforts focus on gas turbine engine technology, ceramic diesel engines, and composite materials. Industry experts we have consulted with believe that most of these technologies will not have serious commercial application until the late 1980's at the earliest. The Japanese, however, are making significant progress in applying ceramic materials to automotive engines and have successfully road tested diesel engines with ceramic parts. Ultimately, the goal of this research is an engine with heavy use of ceramic parts that would improve fuel economy by increasing an engine's thermal efficiency and reducing overall car weight by eliminating the need for cooling systems. Toyota has recently announced the development of an aluminum piston reinforced with alumina-silica ceramic fibers. The introduction of these composite pistons is another significant step toward the use of ceramics in engines. Japanese ceramic materials are high quality, but available information suggests that fabrication technology needed to apply ceramics in automobile engines is not as refined as the highly publicized road tests would indicate. If they can solve their problems,

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Japan will be able to introduce a diesel engine with ceramic components by 1990

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Reported Automotive Research and Development Expenditures

(Stated in Million US $)

	1982	1981	1980	1979	1978	1977	1976
Toyota	616	570	533	427	467	312	238
Nissan	477	464	416	341	334	252	199
Toyo Kogyo	155	138	119	91	88	73	60
Honda	185	201	172	145	139	91	66
Isuzu	97	95	95	89	86	64	51

Exchange rates used to convert Yen into Dollars are as follows;
1982 = 250.0, 1981 = 227.5, 1980 = 217.3, 1979 = 229.7,
1978 = 201.4, 1977 = 256.5, 1976 = 292.5

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FINANCIAL TABLES

I. Financial Ratios

- o Net Return on Sales
- o Return on Total Long-Term Capital
- o Long-Term Debt as Percent of Long-Term Capital
- o Long-Term Debt Indexed to Base Years
- o Primary Operating Cash Flow
- o Net Working Capital
- o Index of Shareholder Equity
- o Investments as a Percentage of Total Assets

II. Flow of Funds Statements

- o Toyota Motor Corpoation
- o Nissan Motor Co., LTD.
- o Honda Motor Co., LTD.
- o Toyo Kogyo Co., LTD.
- o Isuzu Motors Limited

III. Summary Balance Sheets

- o Toyota Motor Corporation
- o Nissan Motor Co., LTD.
- o Honda Motor Co., LTD.
- o Toyo Kogyo Co., LTD.
- o Isuzu Motors Limited

IV. Exchange Rates

Data for Graphs

Net Return on Sales*
(percentage)

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Toyota	3.7	3.8	4.3	3.6	4.4	5.1	5.0	2.7	2.9	5.2	4.2	3.8	5.2
Nissan	2.7	2.9	3.2	2.8	3.6	4.2	3.0	1.3	3.3	4.1	3.4	3.6	3.7
Honda	1.6	2.2	2.2	1.7	2.1	2.3	2.1	2.1	3.1	3.8	3.7	3.8	5.1
Toyo Kogyo	7.6	1.7	1.5	0.9	0.4	0.2	0.2	(0.3)	1.0	1.8	2.4	3.0	4.1
Isuzu	4.3	1.2	0.7	2.0	2.4	1.3	1.7	(2.5)	(0.6)	(0.9)	(1.8)	(0.2)	0.9

* (Profit/Sales Revenue)

Return on Total Long Term-Capital**
(percentage)

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Toyota	10.8	12.1	12.1	12.2	15.5	17.8	19.0	10.7	10.6	20.0	17.3	15.4	20.8
Nissan	7.6	9.4	10.6	9.1	12.6	14.8	10.7	4.2	10.2	12.9	10.4	9.2	9.6
Honda	5.9	8.9	8.1	5.9	7.0	6.6	5.1	4.9	5.8	8.0	8.0	9.0	15.0
Toyo Kogyo	11.6	6.9	6.3	3.2	2.5	0.4	0.4	(0.6)	1.9	3.1	3.3	3.5	4.3
Isuzu	8.4	3.2	2.1	7.7	9.2	4.4	5.4	(6.8)	1.6	2.0	(3.2)	(0.3)	2.0

**(Net Profit/Long-term debt + Equity)
Note: Long-term debt excludes retirement allowances included in Japanese financial reports.

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Data for Graphs (cont'd.)

Long-Term Debt as Percentage of Long-Term Capital*

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Toyota	0.0	0.0	0.5	0.0	0.1	0.8	2.7	5.0	3.6	5.0	7.9	11.0	11.8
Nissan	17.5	12.9	16.3	14.8	18.1	21.0	27.9	31.8	27.6	30.0	40.0	47.9	46.5
Honda	29.4	20.6	24.8	31.0	29.3	38.1	48.9	47.7	45.8	47.2	52.9	52.5	53.4
Toyo Kogyo	36.5	50.5	51.6	59.7	65.8	68.9	70.3	70.4	66.5	66.1	64.4	63.2	61.9
Isuzu	32.4	65.0	47.2	46.5	50.0	53.5	53.5	56.2	51.0	48.1	44.9	42.9	50.0

*(Long Term Debt/Long Term debt + Equity)
Note: Long-term debt excludes retirement allowance included in Japanese financial reports.

Above Indexed to Base Year
(1970)

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Toyota	0.000	0.000	0.042	0.000	0.000	0.068	0.229	0.424	0.305	0.424	0.669	0.932	1.000
Nissan	0.376	0.277	0.351	0.318	0.389	0.452	0.600	0.684	0.594	0.645	0.860	1.030	1.000
Honda	0.550	0.386	0.464	0.581	0.549	0.713	0.916	0.893	0.858	0.884	0.991	0.983	1.000
Toyo Kogyo	0.590	0.816	0.834	0.964	1.063	1.113	1.136	1.137	1.074	1.068	1.040	1.021	1.000
Isuzu	0.637	1.277	1.228	0.927	0.914	0982	1.051	1.104	1.001	0.945	0.882	0.843	1.000

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Data for Graphs (cont'd.)

Primary Operating Cash Flow*
(millions of Dollars)

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Toyota	431.9	(80.6)	525.7	339.3	229.4	275.6	428.1	76.9	(90.8)	264.4	248.0	(71.2)	(0.6)
Nissan	4.1	115.5	257.4	96.0	215.0	180.7	210.9	19.4	5.3	88.2	75.5	(38.5)	(1.7)
Honda	(17.8)	(3.8)	12.9	(16.1)	(36.6)	(3.7)	(8.0)	(8.1)	(7.3)	48.5	41.4	15.5	8.9
Toyo Kogyo	NA	(125.5)	(72.0)	76.2	31.6	16.7	27.8	52.1	(73.3)	(66.1)	(68.9)	23.5	29.4
Isuzu	NA	(80.3)	(150.5)	101.9	39.8	36.6	57.0	(53.5)	(52.5)	(29.1)	(28.4)	(2.2)	(20.0)

*(Net Profit + Depreciation) - Capital Spending
Note: Negatives for Honda reflect large growth in plant and equipment.

Net Working Capital**
(millions of Dollars)

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Toyota	1548.7	889.7	1387.3	1117.7	1176.7	858.6	529.7	227.0	216.1	364.0	240.9	105.6	109.1
Nissan	484.7	315.4	470.0	234.7	243.7	189.9	69.1	40.2	41.0	131.5	124 7	136.8	125.7
Honda	78.4	1.7	47.2	38.3	102.1	158.4	229.6	230.4	223.1	191.5	176.3	137.6	100.9
Toyo Kogyo	116.9	195.2	25.3	334.8	463.8	415.2	359.9	334.9	282.4	352.2	334.9	336.4	267.9
Isuzu	69.7	(102.6)	(19)	(53.3)	(28.7)	4.7	1.2	(54.9)	14.1	82.8	84.0	98.9	38.9

**(current assets - current liabilities)

25X1

Data for Graphics (cont'd.)

Index of Shareholder Equity*

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Toyota	10.978	10.087	9.522	7.592	7.788	5.309	3.640	2.766	2.542	2.477	1.694	1.259	1.000
Nissan	9.721	9.064	8.213	6.946	6.766	4.593	3.108	2.656	2.606	2.466	1.694	1.241	1.000
Honda	7.511	7.731	6.630	5.311	5.715	3.718	2.675	2.451	2.348	1.958	1.604	1.242	1.000
Toyo Kogyo	NA	2.805	2.464	1.815	1.952	1.522	1.349	1.334	1.424	1.507	1.326	1.119	1.000
Isuzu	NA	3.280	3.263	3.053	3.146	2.193	1.753	1.513	1.788	1.851	1.640	1.534	1.000

*(Shareholders Equity/Equity in Base Year)

Capital Expenditures - See Flow of Funds Statements

R&D Expenditures - See Table in R&D Chapter

Investments as a Percentage of Total Assets**

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Toyota	20.0	23.2	21.3	19.3	18.5	19.8	20.4	19.1	21.9	21.5	16.5	10.6	11.2
Nissan	26.0	25.4	22.2	23.3	22.2	21.4	21.1	19.9	19.6	19.1	17.1	15.8	16.0
Honda	17.6	18.1	15.8	18.8	17.1	17.4	15.9	15.6	14.1	14.4	13.5	8.7	10.3
Toyo Kogyo	NA	5.6	5.8	5.4	4.5	4.6	6.4	6.7	3.6	4.9	4.8	4.1	4.4
Isuzu	NA	20.0	18.5	17.8	18.0	16.7	16.3	16.0	12.9	12.0	11.8	11.4	11.6

**(Investment/Total Assets)

25X1

TOYOTA MOTOR CORPORATION
Flow of Funds Statement
(Millions of Dollars)

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Total Sales	15,398	15,411	15,236	12,202	12,996	8,919	6,827	5,586	4,629	4,508	3,646	2,747	2,179
Percent Sales in US	20.1	22.0	21.7	21.2	21.1	21.2	20.9	18.6	17.9	19.8	20.8	21.9	19.2
SOURCES OF FUNDS:													
Net Income	566	583	661	444	577	455	341	149	134	249	152	104	113
Less: Cash Dividends Declared	101	106	94	79	86	45	30	26	26	25	25	19	20
Retained Earnings	465	477	567	365	491	410	311	123	108	224	127	85	93
Depreciation	628	532	486	392	372	239	237	283	226	209	228	169	111
Total Internal Funds:	1,093	1,009	1,620	752	863	649	548	406	334	433	355	254	204
Long Term Debt	0	0	0	0	0	0	0	0	0	0	-9	19	25
New Captial Issue	396	0	150	0	0	146	78	0	0	82	2	6	0
Total External Funds:	396	0	150	0	0	146	78	0	0	82	11	25	25
TOTAL SOURCES OF FUNDS:	1,489	1,009	1,770	752	863	795	626	406	334	515	366	279	229
USE OF FUNDS:													
Capital Expenditures	762	1,196	621	497	720	418	150	355	451	193	132	344	225
Misc. Investment and all other	20	250	404	162	44	102	150	25	15	209	141	16	20
Reduction in Debt	0	0	0	0	0	0	0	1	3	8	15	10	8
TOTAL USE OF FUNDS	1,489	1,009	1,770	752	863	795	626	406	334	515	366	279	229
Increase/Decrease In Working Capital	707	437	745	93	99	275	326	25	(135)	105	78	(91)	(24)

*estimated

25X1

NISSAN MOTOR COMPANY, LTD.
Flow of Funds Statement
(Millions of Dollars)

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Total Sales	12,795	12,257	12,607	10,043	11,154	7,892	6,055	4,780	4,342	4,295	3,305	23,79	1,859
Percent Sales in US	21.0	22.4	23.8	21.2	19.6	16.8	15.2	16.9	13.6	15.7	14.4	15.9	11.1
SOURCES OF FUNDS:													
Net Income	344	378	402	285	401	333	179	63	142	175	113	85	69
Less: Cash Dividends Declared	92	81	84	65	61	38	30	29	30	26	22	19	18
Retained Earnings	252	297	318	220	340	295	149	34	112	149	91	65	51
Depreciation	446	391	392	313	310	193	176	181	183	181	156	100	82
Total Internal Funds:	698	688	710	533	650	488	325	215	295	330	247	165	133
Long Term Debt	599	38	248	94	150	83	88	217	77	79	89	142	124
New Capital Issue	317	176	18	172	15	112	2	7	5	93	21	0	0
Total External Funds	826	214	266	266	165	195	90	224	82	172	110	142	124
TOTAL SOURCES OF FUNDS:	1,524	902	976	799	815	683	415	439	377	502	357	367	257
USE OF FUNDS:													
Capital Expenditures	787	653	538	502	495	345	144	224	319	268	194	223	153
Misc. Investment and all other	384	329	123	168	139	88	132	99	57	108	76	63	75
Reduction in Debt	68	89	136	149	154	118	95	103	119	126	109	81	60
TOTAL USE OF FUNDS	1,524	902	976	799	815	683	415	439	377	502	357	307	257
Increase/Decrease in Working Capital	285	(169)	182	(20)	27	132	44	13	(118)	0	(22)	(60)	(31)

*estimated

25X1

HONDA MOTOR COMPANY, LTD.
Flow of Funds Statement
(Millions of Dollars)

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Total Sales	6,176	5,911	4,923	4,016	4,219	2,607	1,929	1,738	1,253	1,197	1,121	942	680
Percent Sales in US	38.0*	38.5	41.4	44.4	38.8	34.3	27.0	24.0	9.7	11.0	7.1	3.1	1.0
SOURCES OF FUNDS:													
Net Income	97	133	109	70	87	61	41	36	39	46	42	36	34
Less: Cash Dividends Declared	30	30	26	23	25	17	15	12	12	12	11	10	9
Retained Earnings	67	103	83	47	62	44	26	24	27	34	31	26	25
Depreciation	162	135	127	108	100	60	45	39	35	41	40	31	25
Total External Funds:	229	238	210	155	162	104	71	63	62	75	71	57	50
Long Term Debt	148	68	42	162	51	11	97	79	89	10	66	35	34
New Capital Issue	6	112	73	0	89	60	0	0	53	0	0	0	0
Total External Funds	155	180	115	162	140	71	97	79	142	10	66	35	34
TOTAL SOURCES OF FUNDS:	384	418	325	317	302	175	168	142	204	85	137	92	84
USE OF FUNDS:													
Capital Expenditures	277	272	222	194	223	124	94	83	81	38	40	51	51
Misc. Investment and all other	81	106	1	59	46	49	26	29	35	9	48	2	11
Reduction in Debt	45	93	103	98	96	76	25	27	30	24	19	16	13
TOTAL USE OF FUNDS	384	418	325	317	302	175	168	142	204	85	137	92	84
Increase/Decrease in Working Capital	(19)	(53)	(1)	(34)	(63)	(74)	23	3	58	14	30	23	10

*estimated

25X1

TOYO KOGYO COMPANY, LTD.
Flow of Funds Statement
(Millions of Dollars)

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Total Sales	NA	5,112	4,745	3,636	3,408	2,449	2,012	1,660	1,771	1,665	1,159	805	616
Percent Sales in US	NA	24.1	26.6	24.3	20.2	16.3	7.7	10.8	10.2	16.4	9.9	4.0	*
SOURCES OF FUNDS:													
Net Income	NA	34	72	32	13	4	4	(6)	18	31	28	24	25
Less: Cash Dividends Declared	NA	16	14	9	10	8	7	8	14	15	14	12	13
Retained Earnings	NA	18	58	23	3	(4)	(3)	(14)	2	16	14	12	12
Depreciation	NA	144	119	98	110	77	60	77	77	71	52	44	43
Total Internal Funds	NA	162	177	121	113	73	57	63	79	87	66	56	55
Long Term Debt	NA	213	132	91	155	151	165	260	160	203	164	137	109
New Capital Issue	NA	29	63	0	0	0	0	0	0	0	0	0	1
Total External Funds	NA	242	195	91	155	151	165	260	160	203	164	137	109
TOTAL SOURCES OF FUNDS:	NA	404	372	212	268	224	222	323	239	290	230	193	165
USE OF FUNDS:													
Capital Expenditures	NA	356	264	54	92	64	36	20	170	168	148	45	38
Misc. Investment and all other	NA	12	32	11	(21)	(51)	0	77	(16)	11	19	4	6
Reduction in Debt	NA	168	203	236	249	184	150	128	105	104	101	89	74
TOTAL USE OF FUNDS	NA	404	372	212	268	224	222	323	239	290	230	193	165
Increase/Decrease in Working Capital	NA	(132)	(127)	(89)	(52)	27	36	107	(20)	7	(38)	51	47

*Less than 1 percent

25X1

ISUZU MOTORS LIMITED
Flow of Funds Statement
(Millions of Dollars)

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Total Sales	NA	3,197	3,165	2,766	2,842	1,827	1,453	1,191	1,115	959	661	588	552
Percent Sales in US	NA	*	*	*	*	*	*	*	*	*	*	*	*
SOURCES OF FUNDS:													
Net Income	NA	37	23	55	67	24	25	(29)	7	9	(12)	(1)	5
Less: Cash Dividends Declared	NA	17	18	18	23	0	0	0	0	0	0	2	8
Retained Earnings	NA	20	5	37	44	24	25	(29)	7	9	(12)	(3)	(3)
Depreciation	NA	82	84	61	55	46	51	46	37	33	30	29	27
Total Internal Funds	NA	102	89	98	99	70	76	17	44	42	18	30	24
Long Term Debt	NA	204	310	72	40	37	47	62	58	76	51	39	36
New Capital Issue	NA	0	0	0	0	0	0	0	-0	0	0	60	0
Total External Funds:	NA	204	310	72	40	37	47	62	58	76	51	99	36
TOTAL SOURCES OF FUNDS:	NA	306	399	160	139	107	123	79	102	118	69	129	60
USE OF FUNDS:													
Capital Expenditures	NA	200	257	148	82	33	19	70	96	71	47	30	52
Misc. Investment and all other	NA	92	110	27	55	24	10	42	31	16	2	4	(1)
Reduction in Debt	NA	78	63	59	67	45	34	31	31	39	33	25	24
TOTAL USE OF FUNDS	NA	306	399	160	139	107	123	79	102	118	69	129	60
Increase/Decrease in Working Capital	NA	(64)	(31)	(74)	(65)	5	60	(64)	(56)	(8)	(13)	70	(15)

*Less than 1 percent

25X1

TOYOTA MOTOR CORPORATION
Summary Balance Sheet
(Millions of Dollars)

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
ASSETS													
Current Assets	4,375	3,569	4,262	3,310	3,418	2,469	1,862	1,340	987	1,284	905	601	526
Fixed Assets	4,177	4,420	3,672	2,964	3,075	2,106	1,602	1,504	1,438	1,281	1,002	846	610
Investments	1,714	1,861	1,686	1,214	1,199	907	707	544	530	551	315	153	128
Property, Plant, & Equipment	2,464	2,560	1,985	1,750	1,876	1,200	895	961	910	730	688	693	483
Land	417	442	439	366	371	233	95	93	86	75	60	52	39
Buildings	762	714	529	504	528	329	279	291	269	250	218	197	159
Machinery & Equipment	963	972	656	632	713	407	325	398	410	331	360	383	228
Other	322	432	361	248	264	231	196	179	145	74	50	61	57
Intangible Fixed Assets	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL ASSETS	8,553	7,989	7,934	6,274	6,493	4,576	3,463	2,844	2,426	2,565	1,907	1,447	1,136
LIABILITIES													
Current Liabilities	2,827	2,680	2,875	2,192	2,242	1,621	1,332	1,113	771	920	664	496	417
Long-Term Liabilities	440	437	438	356	368	255	221	213	159	152	129	116	96
Special Reserves	32	45	65	92	56	159	168	194	278	308	303	233	145
Stockholder Equity	5,254	4,828	4,557	3,633	3,727	2,541	1,742	1,324	1,217	1,185	811	602	479
TOTAL LIABILITY AND EQUITY	8,553	7,989	7,934	6,274	6,493	4,576	3,463	2,844	2,426	2,565	1,907	1,447	1,136

* Columns may not add due to rounding.

25X1

H O N D A M O T O R C O., L T D.
Summary Balance Sheet
(Millions of Dollars)

ASSETS	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Current Assets	1,626	1,410	1,464	1,074	1,259	883	753	684	586	475	494	405	285
Fixed Assets	1,572	1,512	1,326	1,166	1,165	783	588	504	441	384	349	266	227
Investments	563	530	442	421	414	291	213	185	159	133	114	59	54
Property, Plant, & Equipment	1,004	977	880	742	749	491	374	318	280	250	233	206	173
Land	364	345	290	132	145	102	83	74	71	64	50	42	35
Buildings	250	251	224	188	201	152	128	91	86	84	77	66	56
Machinery & Equipment	291	302	268	257	259	162	121	104	82	76	75	65	56
Other	99	79	98	165	144	75	42	49	41	26	31	33	28
Intangible Fixed Assets	5	5	4	3	3	2	2	1	1	1	1	1	1
TOTAL ASSETS	3,198	2,921	2,791	2,241	2,425	1,666	1,342	1,188	1,027	860	846	674	517
LIABILITIES													
Current Liabilities	1,547	1,408	1,417	1,036	1,157	724	523	453	353	284	318	267	184
Long-Term Liabilities	481	308	335	366	364	352	393	344	304	269	277	211	176
Special Reserves	16	18	21	23	26	19	14	15	9	7	5	5	4
Shareholder Equity	1,154	1,188	1,018	816	878	571	411	377	361	301	246	191	154
TOTAL LIABILITY AND EQUITY	3,198	2,921	2,791	2,241	2,425	1,666	1,342	1,188	1,027	860	846	674	517

* Columns may not add due to rounding.

25X1_

T O Y O K O G Y O C O., L T D.
Summary Balance Sheet
(Millions of Dollars)

ASSETS	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
Current Assets	NA	2,077	2,074	1,752	2,281	2,044	1,765	1,604	1,458	1,394	1,208	1,019	790
Fixed Assets	NA	1,154	974	754	897	735	700	709	705	672	521	358	331
Investments	NA	180	176	136	142	127	157	153	78	101	83	57	49
Property, Plant, & Equipment	NA	975	798	618	755	607	544	555	626	571	438	302	281
Land	NA	102	107	110	132	99	102	100	120	114	96	83	83
Buildings	NA	203	203	195	235	196	184	188	207	191	137	92	91
Machinery & Equipment	NA	387	336	186	232	186	170	186	208	171	110	76	73
Other	NA	283	152	127	156	126	88	81	91	95	95	51	34
Intangible Fixed Assets	NA	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
TOTAL ASSETS	NA	3,231	3,048	2,506	3,178	2,780	2,466	2,313	2,164	2,067	1,729	1,378	1,122
LIABILITIES													
Current Liabilities	NA	1,881	1,821	1,417	1,817	1,629	1,405	1,268	1,176	1,042	873	682	522
Long-Term Liabilities	NA	724	677	684	926	811	760	747	664	684	556	442	374
Special Reserves	NA	[illegible]	[illegible]	0	0	0	0	0	6	5	4	4	3
Equity	NA	626	550	405	436	340	301	298	318	336	296	250	223
TOTAL LIABILITY AND EQUITY	NA	3,231	3,048	2,506	3,178	2,780	2,466	2,313	2,164	2,067	1,729	1,378	1,122

* Columns may not add due to rounding.

25X1

ISUZU MOTORS LIMITED
Summary Balance Sheet
(Millions of Dollars)

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
ASSETS													
Current Assets	NA	1,426	1,428	1,127	1,222	895	703	625	649	614	505	475	399
Fixed Assets	NA	1,301	1,142	813	798	564	485	496	440	375	296	245	224
Investments	NA	545	474	345	363	244	193	179	141	118	95	82	73
Property, Plant, & Equipment	NA	755	668	468	434	320	292	316	299	256	201	163	151
Land	NA	125	126	104	105	83	67	63	63	56	51	41	38
Buildings	NA	192	165	125	117	86	76	78	73	64	54	44	41
Machinery & Equipment	NA	308	229	171	153	109	107	108	102	85	70	57	52
Other	NA	130	148	68	59	42	42	67	61	51	26	21	20
Intangible Fixed Assets	NA	1	1	1	1	1	negl	1	1	negl	negl	negl	negl
TOTAL ASSETS	NA	2,727	2,565	1,940	2,020	1,460	1,188	1,120	1,089	988	801	720	623
LIABILITIES													
Current Liabilities	NA	1,529	1,442	1,180	1,251	891	702	679	635	531	421	376	360
Long-Term Liabilities	NA	787	714	377	374	294	265	254	233	226	178	153	138
Special Reserves	NA	6	6	6	7	5	4	0	1	3	0	2	2
Equity	NA	405	403	377	389	271	217	189	221	229	203	189	124
TOTAL LIABILITY AND EQUITY	NA	2,727	2,565	1,940	2,020	1,460	1,188	1,120	1,089	988	801	720	623

* Columns may not add due to rounding.

25X1

N I S S A N M O T O R C O., L T D.
Summary Balance Sheet
(Millions of Dollars)

	1982	1981	1980	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970
ASSETS													
Current Assets	3,948	3,729	4,176	3,346	3,753	2,902	2,455	2,100	1,840	1,968	1,784	1,469	1,141
Fixed Assets	4,462	4,117	3,697	3,245	3,297	2,336	1,840	1,704	1,594	1,497	1,200	961	723
Investments	2,186	1,991	1,744	1,535	1,562	1,119	905	759	674	661	509	383	299
Property, Plant, & Equipment	2,268	2,118	1,944	1,702	1,725	1,208	927	938	914	831	686	573	420
Land	400	415	410	283	311	236	192	177	152	128	103	69	42
Buildings	678	576	575	533	570	431	337	330	309	295	238	202	152
Machinery & Equipment	852	717	640	584	586	350	266	300	305	288	250	212	156
Other	338	410	319	302	258	191	132	131	148	120	95	90	70
Intangible Fixed Assets	8	8	9	8	10	8	7	8	5	5	5	5	4
TOTAL ASSETS	8,410	7,846	7,873	6,592	7,050	5,237	4,295	3,804	3,434	3,465	2,985	2,430	1,863
LIABILITIES													
Current Liabilities	3,463	3,413	3,706	3,112	3,510	2,712	2,386	2,060	1,799	1,837	1,660	1,332	1,015
Long-Term Liabilities	1,109	825	868	655	738	581	547	545	430	450	453	454	347
Special Reserves	89	112	131	147	194	174	164	175	200	228	219	165	116
Equity	3,748	3,495	3,167	2,679	2,609	1,771	1,198	1,024	1,005	951	653	479	386
TOTAL LIABILITY AND EQUITY	8,410	7,846	7,873	6,592	7,050	5,237	4,295	3,804	3,434	3,465	2,985	2,430	1,863

* Columns may not add due to rounding.

25X1

EXCHANGE-RATES

1982 = 250¥/$1

1981 = 228¥/$1

1980 = 217¥/$1

1979 = 230¥/$1

1978 = 201¥/$1

1977 = 257¥/$1

1976 = 292¥/$1

1975 = 299¥/$1

1974 = 293¥/$1

1973 = 274¥/$1

1972 = 297¥/$1

1971 = 336¥/$1

1970 = 360¥/$1